



University of Calcutta

Dept. of Applied Physics
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Tender Notice

Enq No.: AP/ENQ/UGC-SAP-DRS-II/RG/ENQ/18-19/05

Date: 27/09/2018

To

The All Interested Parties

Dear M/s.

Please submit sealed quotation within **31/10/2018 (4 PM)** at the Office of the Department of Applied Physics for the following items.

Please enclose the copy of the following papers along with the quotation.

1. Trade License, 2. PAN Card, 3. VAT & Service Tax Registration wherever necessary

(A) 2-channel Medical signal acquisition and computerized analysis system: 01 unit

Hardware specifications:

1. Number of analog input channels should be two. All of them to be compatible with for transducer and also for bio-potentials. The system should be ready to use with multifunction transducers for ECG, EMG, Integrated EMG, RMS, EOG, EEG, IR based Photoplethysmogram (PPG), Blood Pressure (Oscillometric Method) and Heart Sound/Korotkoff Sound and Respiration from human subject.
2. Hardware should be USB powered with sampling rate of at least 40 KSPS/per channel or better, with input voltage Range adjustable from $\pm 200\mu\text{V}$ to $\pm 2\text{V}$ and will facilitate for mobile or for field study.
3. Analog sampling resolution should be 24 bit or more with SNR of 50 dB or more. Connectivity to the acquisition computer should be USB.
4. The system should comply with proper international patient safety standards (like IEC60601-1, EMC complies with IEC60601-1-2 and CE marked).
5. The hardware operation should have automatic, user adjustable, with programmable digital and analog filtering capability.
6. The system should also be up-gradable to other physiological parameters with only add on accessories for the desired parameters.

Software Specifications:

1. Should support the latest operating systems (WINDOWS 7, 10, 32 bit or 64 bit).
2. To be able to view the acquired data in real time and also to save the data in different format (like .txt, .edf, .csv, mat, .wav, .jpeg, excel, and can be directly transferred the whole data to MATLAB® for further analysis).

3. Should be capable of on-line and off-line analysis and should have the facility of FFT, PSD and Histogram measurement. Programmable analog and digital should have filters should be automatic or user adjustable. The gain should be programmable or auto-adjustable (5-50,000X or more).
4. Software should be full latest version for all parameters with multiple display modes with event marking features.
5. Fully automated analysis of physiological signals and curate detection of fiducial points and peripheral processing capability (like interval extraction).

(B) Photoplethysmogram Sensor compatible with item (A): 01 unit

(C) Digital Human Blood pressure transducer system compatible with item (A): 01 unit

Specifications:

1. Electronic Stethoscope should have microphone bandwidth of 20-100 Hz.
2. Blood Pressure Cuff Transducer should consists of adjustable Cuff of 14.5 cm (wide) X 54 cm(long), pump bulb and pressure sensor.
3. Blood Pressure Cuff transducer should have a pressure range from 20 mmHg to 300 mmHg with accuracy of ± 3 mmHg.
4. Cuff circumference should be around 25 cm to 42 cm.

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